



NEWPORT CORPORATION
1791 DEERE AVENUE
IRVINE, CA 92606
PHONE: (949) 863-3144
FAX: (949) 253-1800

PA034500CN
CERTIFICATE NUMBER

CERTIFICATE OF CALIBRATION

Model No: 918D-UV-OD3R

Serial No: 2952

Description: Low Power Detector

Customer Name: Initial Purchaser

Address:

Calibrated Per Procedure No: PTP44571-1

Environment Conditions

Temperature: 23.5 °C

Relative Humidity: 32.16 %

Standard Used Model	Serial or ID Number	Description	Calibration Due Date	Calibration Traceability Number
Hamamatsu	D214	NIST Standard	12/13/2022	O-0000000544

Newport certifies that the calibration that was performed using Standards that are traceable to the National Institute of Standards and Technology (NIST), other recognized national standards laboratories, using natural physical constants, or ratio calibration techniques. The calibration complies with ANSI/NCSL Z540-1-1994 and ISO-9001. This certificate shall not be reproduced except in full, without the written approval of Newport. Specific information concerning parameters and measurements is in attachment(s). Calibration ratio is at least 4:1 unless otherwise stated.

Calibration Date: 09-Mar-2022

DD-MMM-YY

Calibration By: April Cao

Print/Sign

Reviewed By: April Cao

Title: Technician

CAL
STICKER

Newport recommends recalibration 12 months after the initial recalibration. Fill in the date and due date on calibration sticker. Remove and apply it to the Instrument as required.

Detector Calibration Report



Newport Corporation
1791 Deere Avenue, Irvine, CA 92606
Telephone: 949-863-3144
Facsimile: 949-253-1800

Report Number: **918D-UV-OD3R09-Mar-20222952CN**
Detector Model Number: **918D-UV-OD3R**
Detector Serial Number: **2952**
External Attenuator
Serial Number: **2952**
Operator: **April Cao**
Traceability Number: **O-0000000544**
Calibration Date: **09-Mar-2022**
Calibration Temperature: **23.5 ± 0.5 °C**
Customer: **Initial Purchaser**
Customer Address:



Please remove & apply
calibration sticker to the
instrument as required.

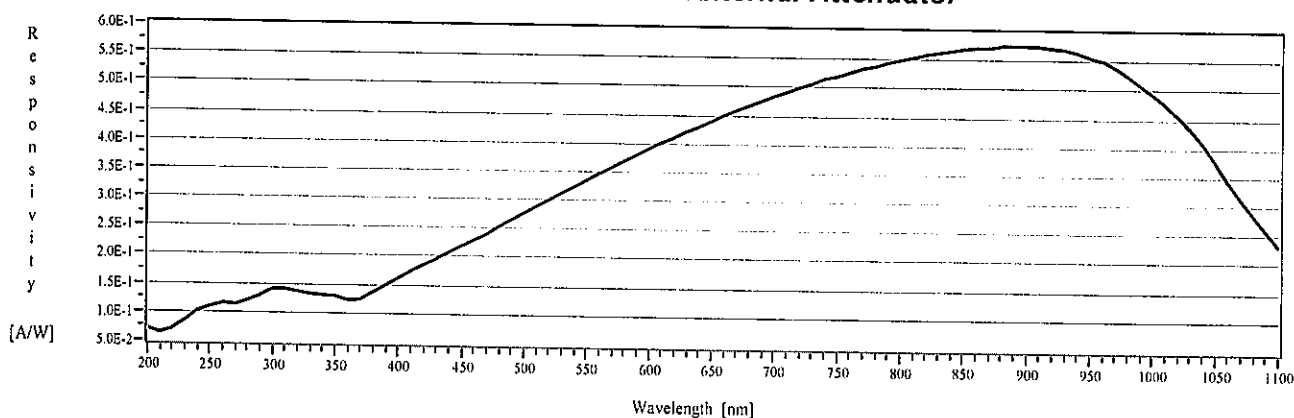
Procedure: **PTP44571-1**
Humidity: **32.1 %**

Table 1. Responsivity [A/W]:

Detector Without External Attenuator

Lambda	0	10	20	30	40	50	60	70	80	90
200	7.0767E-2	6.4766E-2	7.0980E-2	8.5864E-2	1.0169E-1	1.0984E-1	1.1606E-1	1.1351E-1	1.2083E-1	1.2954E-1
300	1.4051E-1	1.4084E-1	1.3705E-1	1.3334E-1	1.3092E-1	1.2989E-1	1.2327E-1	1.2436E-1	1.3690E-1	1.4965E-1
400	1.6199E-1	1.7419E-1	1.8526E-1	1.9564E-1	2.0700E-1	2.1881E-1	2.2956E-1	2.3955E-1	2.5310E-1	2.6476E-1
500	2.7637E-1	2.8825E-1	3.0000E-1	3.1171E-1	3.2320E-1	3.3505E-1	3.4658E-1	3.5775E-1	3.6879E-1	3.7985E-1
600	3.9058E-1	4.0150E-1	4.1053E-1	4.2126E-1	4.2967E-1	4.3968E-1	4.4986E-1	4.5906E-1	4.6722E-1	4.7607E-1
700	4.8376E-1	4.9143E-1	5.0000E-1	5.0627E-1	5.1537E-1	5.2012E-1	5.2698E-1	5.3384E-1	5.3813E-1	5.4434E-1
800	5.4953E-1	5.5424E-1	5.5886E-1	5.6245E-1	5.6615E-1	5.6925E-1	5.7146E-1	5.7201E-1	5.7513E-1	5.7493E-1
900	5.7560E-1	5.7457E-1	5.7176E-1	5.6964E-1	5.6406E-1	5.5649E-1	5.5079E-1	5.3852E-1	5.2441E-1	5.0830E-1
1000	4.9262E-1	4.7578E-1	4.5592E-1	4.3341E-1	4.0816E-1	3.7717E-1	3.4106E-1	3.1087E-1	2.8348E-1	2.5732E-1
1100	2.3066E-1									

Responsivity versus Wavelength
Detector Without External Attenuator



Detector Calibration Report



Newport Corporation
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Report Number: **918D-UV-OD3R09-Mar-20222952CN**

Detector Model Number: **918D-UV-OD3R**

Detector Serial Number: **2952**

External Attenuator Serial Number: **2952**

Customer: **Initial Purchaser**

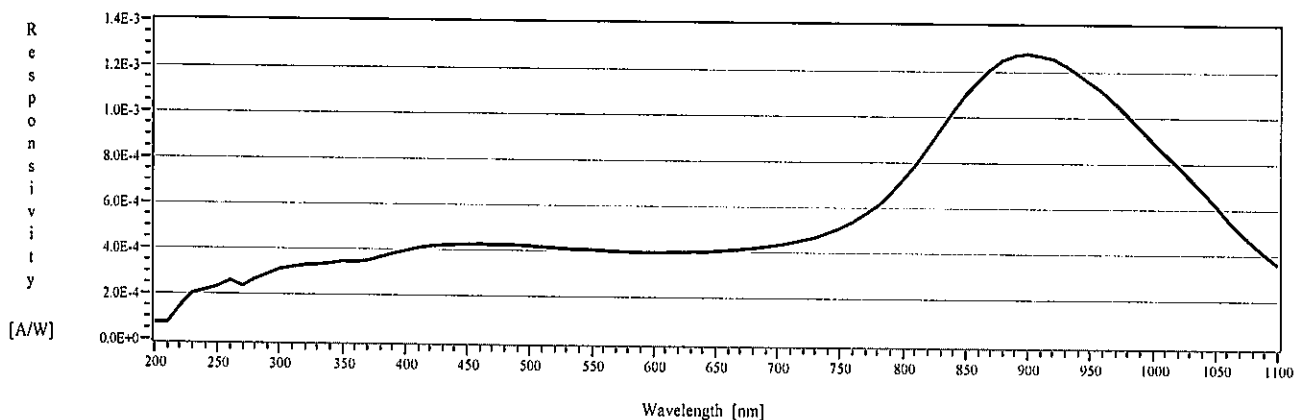
Newport certifies that the calibration was performed using standards traceable to the National Institute of Standards and Technology (NIST), National Research Council (NRC) using natural physical constants, or ratio techniques. The calibration complies with ANSI/NCSL Z540-1-1994 and ISO 9001. This certificate shall not be reproduced, except in full, without written approval by Newport. The expanded uncertainty claims are based on ± 2 standard deviations of all known calibration variables. For example, if the calibration uncertainty is claimed to be $\pm 2\%$, that means there is a 95% probability the reported responsivity falls within $\pm 2\%$ of the NIST reference standard.

Table 2. Responsivity [A/W]:

Detector With External Attenuator

Lambda	0	10	20	30	40	50	60	70	80	90
200	7.1391E-5	7.1015E-5	1.4637E-4	2.0338E-4	2.1834E-4	2.3424E-4	2.5899E-4	2.3486E-4	2.6621E-4	2.8941E-4
300	3.1265E-4	3.2200E-4	3.2796E-4	3.3152E-4	3.3790E-4	3.4727E-4	3.4376E-4	3.4989E-4	3.6754E-4	3.8249E-4
400	3.9603E-4	4.0781E-4	4.1496E-4	4.1885E-4	4.2322E-4	4.2389E-4	4.2618E-4	4.2294E-4	4.2452E-4	4.2318E-4
500	4.1941E-4	4.1668E-4	4.1364E-4	4.1043E-4	4.0717E-4	4.0480E-4	4.0230E-4	3.9972E-4	3.9767E-4	3.9674E-4
600	3.9625E-4	3.9682E-4	3.9700E-4	3.9895E-4	4.0019E-4	4.0394E-4	4.0825E-4	4.1304E-4	4.1841E-4	4.2537E-4
700	4.3355E-4	4.4350E-4	4.5498E-4	4.6853E-4	4.8787E-4	5.0906E-4	5.3628E-4	5.7026E-4	6.0960E-4	6.5978E-4
800	7.2013E-4	7.8702E-4	8.6332E-4	9.4246E-4	1.0215E-3	1.0965E-3	1.1535E-3	1.2098E-3	1.2523E-3	1.2725E-3
900	1.2809E-3	1.2713E-3	1.2579E-3	1.2281E-3	1.1915E-3	1.1519E-3	1.1135E-3	1.0615E-3	1.0066E-3	9.4964E-4
1000	8.9635E-4	8.4286E-4	7.8776E-4	7.3246E-4	6.7766E-4	6.1830E-4	5.5373E-4	4.9935E-4	4.4990E-4	4.0369E-4
1100	3.5798E-4									

**Responsivity versus Wavelength
Detector With External Attenuator**



Detector Calibration Report



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Detector Model Number: **918D-UV-OD3R**

Detector Serial Number: **2952**

External Attenuator Serial Number: **2952**

Customer: **Initial Purchaser**

Table 3. Calibration Factors:

Detector Without External Attenuator

Lambda	0	10	20	30	40	50	60	70	80	90
200	1.4131E+1	1.5440E+1	1.4089E+1	1.1646E+1	9.8335E+0	9.1039E+0	8.6159E+0	8.8094E+0	8.2762E+0	7.7199E+0
300	7.1170E+0	7.1004E+0	7.2966E+0	7.4998E+0	7.6385E+0	7.6991E+0	8.1126E+0	8.0413E+0	7.3047E+0	6.6822E+0
400	6.1731E+0	5.7410E+0	5.3979E+0	5.1114E+0	4.8308E+0	4.5702E+0	4.3562E+0	4.1745E+0	3.9510E+0	3.7769E+0
500	3.6184E+0	3.4692E+0	3.3333E+0	3.2081E+0	3.0941E+0	2.9847E+0	2.8853E+0	2.7953E+0	2.7115E+0	2.6326E+0
600	2.5603E+0	2.4906E+0	2.4359E+0	2.3738E+0	2.3274E+0	2.2744E+0	2.2229E+0	2.1783E+0	2.1403E+0	2.1005E+0
700	2.0672E+0	2.0349E+0	2.0000E+0	1.9752E+0	1.9404E+0	1.9226E+0	1.8976E+0	1.8732E+0	1.8583E+0	1.8371E+0
800	1.8198E+0	1.8043E+0	1.7894E+0	1.7779E+0	1.7663E+0	1.7567E+0	1.7499E+0	1.7482E+0	1.7387E+0	1.7393E+0
900	1.7373E+0	1.7404E+0	1.7490E+0	1.7555E+0	1.7729E+0	1.7970E+0	1.8156E+0	1.8569E+0	1.9069E+0	1.9673E+0
1000	2.0299E+0	2.1018E+0	2.1934E+0	2.3073E+0	2.4500E+0	2.6513E+0	2.9321E+0	3.2168E+0	3.5276E+0	3.8862E+0
1100	4.3354E+0									

Table 4. Calibration Factors:

Detector With External Attenuator

Lambda	0	10	20	30	40	50	60	70	80	90
200	1.4007E+4	1.4081E+4	6.8321E+3	4.9169E+3	4.5799E+3	4.2691E+3	3.8612E+3	4.2578E+3	3.7564E+3	3.4553E+3
300	3.1984E+3	3.1055E+3	3.0491E+3	3.0164E+3	2.9595E+3	2.8796E+3	2.9090E+3	2.8580E+3	2.7208E+3	2.6144E+3
400	2.5251E+3	2.4521E+3	2.4099E+3	2.3875E+3	2.3628E+3	2.3591E+3	2.3464E+3	2.3644E+3	2.3556E+3	2.3631E+3
500	2.3843E+3	2.3999E+3	2.4176E+3	2.4365E+3	2.4560E+3	2.4704E+3	2.4857E+3	2.5018E+3	2.5147E+3	2.5206E+3
600	2.5237E+3	2.5200E+3	2.5189E+3	2.5066E+3	2.4988E+3	2.4756E+3	2.4495E+3	2.4211E+3	2.3900E+3	2.3509E+3
700	2.3065E+3	2.2548E+3	2.1979E+3	2.1343E+3	2.0497E+3	1.9644E+3	1.8647E+3	1.7536E+3	1.6404E+3	1.5157E+3
800	1.3886E+3	1.2706E+3	1.1583E+3	1.0611E+3	9.7894E+2	9.1203E+2	8.6691E+2	8.2661E+2	7.9851E+2	7.8586E+2
900	7.8071E+2	7.8659E+2	7.9499E+2	8.1424E+2	8.3931E+2	8.6816E+2	8.9806E+2	9.4206E+2	9.9342E+2	1.0530E+3
1000	1.1156E+3	1.1864E+3	1.2694E+3	1.3653E+3	1.4757E+3	1.6173E+3	1.8059E+3	2.0026E+3	2.2227E+3	2.4772E+3
1100	2.7935E+3									

Wavelength Range	Uncertainty Over the Range WITHOUT the External Attenuator	Uncertainty Over the Range WITH the External Attenuator
200 - 219	± 4 %	± 8 %
220 - 349	± 2 %	± 2 %
350 - 949	± 1 %	± 1 %
950 - 1100	± 4 %	± 4 %

Standards:

Model: **Hamamatsu**

Serial: **D214**

Due Date: **12/13/2022**